ABSTRACT

Objective: To compare the prevalence of latent tuberculosis infection (LTBI) between Asian Indian type 2 diabetic and non-diabetic individuals.

Methods: Participants with type 2 diabetes (n=98) and age and sex matched controls without diabetes (n=98) were recruited from Diabetes clinic and Medicine out-patient clinic, Institute of Non Communicable diseases, Government Kilpauk medical College, Chennai. LTBI was defined as induration of ≥10mm after Tuberculin Skin Test (TST) and with no abnormality in Chest X-ray based on WHO 2015 guidelines and Center for Disease control and prevention (CDC, USA) guideline. Type 2 Diabetes Mellitus (T2DM) was defined based on WHO criteria. Biochemical and anthropometric measurements were done using standardized procedures.

Results: The 196 participants included 102 women (44.9%). Mean age was 41 ± 9 .4 years and mean body mass index (BMI), 26.32 ± 4 kg/m². The prevalence of LTBI among diabetic and non-diabetic individuals were 35.7% and 12.2 %, respectively ($p \leq 0.001$). The mean Tuberculin skin test (TST) Induration values were significantly higher in diabetic, (7.18 ± 3.0 mm) compared to non-diabetic, participants (5.58 ± 3.05 mm, $p= 0.002$). TST showed a positive correlation with Age, FPG and HbA1c but a negative correlation with BMI and waist circumference in the total study population. Logistic regression analysis showed that diabetes was independently associated with LTBI ($p \leq 0.001$).

Conclusion: Prevalence of Latent Tuberculosis Infection is higher among Asian Indian type 2 diabetic subjects compared to age and sex matched non-diabetic participants.

Keywords: Diabetes, Latent Tuberculosis, Tuberculin Skin Test, Tuberculosis, Asian Indians, South Asians

Abbreviations: LTBI Latent Tuberculosis Infection, T2DM type 2 Diabetes Mellitus, BMI - Body mass index, TST Tuberculin Skin Test

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